Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Implementing Kari's Law and Section 506 of RAY BAUM'S Act	)	PS Docket No. 18-261
	)	
	)	
Inquiry Concerning 911 Access, Routing and Location in Enterprise Communications Systems	)	PS Docket No. 17-239
	)	

COMMENTS OF WEST SAFETY SERVICES, INC.

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West Safety Services, Inc. ("West Safety") respectfully submits the following initial comments in response to the Commission's Notice of Proposed Rulemaking in the above-referenced proceeding.[1]

I. INTRODUCTION

The Commission's proposed implementing regulations of Kari's Law are an excellent first step toward a nationwide E9-1-1 standard for multi-line telephone systems (MLTS). The proposed rules on direct 9-1-1 dialing and notification provide covered entities with essential guidance on compliance, key definitions of the appropriate parties for compliance and enforcement, and added specificity to the notification obligation regarding content, timing and destination. In addition, the proposed rules avoid imposing undue burden on covered entities by including a prospective compliance date with grandfathering relief and a practical definition of improvement to the hardware or software of the system. These implementing regulations also include terms and definitions that easily could be extended to the proposed dispatchable location rule for MLTS.

[1] *Implementing Kari's Law and Section 506 of RAY BAUM'S Act*, PS Docket Nos. 18-261 and 17-239, Notice of Proposed Rulemaking, FCC 18-132 (Sept. 26, 2018) ("NPRM").

In parallel with adopting implementing regulations for Kari's Law, West Safety strongly encourages the Commission take the second and equally important step for E9-1-1 MLTS by adopting its proposed rules requiring delivery of dispatchable location for MLTS calls to 9-1-1. Congress signaled its intent for the Commission to establish a location requirement for MLTS by enacting RAY BAUM's Act only weeks after Kari's Law.[2] The Commission now has the unique opportunity in this proceeding to finally close the 9-1-1 location gap for MLTS services that has been left open for fifteen years after the Commission decided to defer to state regulation in the E9-1-1 Scope Order.[3]

Consistent with the directive in RAY BAUM's Act, the Commission also should consider and adopt verified dispatchable location requirements for other communications service where technically feasible. Timely delivery of dispatchable location should be the expectation for all communications services capable of calling 9-1-1. Fixed telephony and fixed interconnected VoIP providers are already capable of supporting validated dispatchable location, and nomadic interconnected VoIP and other 9-1-1 VoIP services can support more precise location delivery in accordance with the proposed hybrid rule that combines dispatchable location with enhanced Registered Location. Location technology for mobile text messaging is developing rapidly with advancements in handset technology and should soon be able to support delivery of dispatchable location.

Finally, West Safety supports the Commission's proposal to consolidate the 9-1-1 rules into a single rule part. Consolidation will provide greater efficiency to covered entities that

[2] NPRM ¶ 53.

[3] *Revision of the Commission's Rules to Ensure Compatibility With Enhanced E9-1-1 Emergency Calling Systems*, Report and Order and Second Further Notice of Proposed Rulemaking, 18 FCC Rcd 25340, 25362-63 (2003) ("E9-1-1 Scope Order"); *see Revision of the Commission's Rules to Ensure Compatibility with Enhanced 9-1-1 Emergency Calling Systems*, CC Docket No. 94-102, Notice of Proposed Rulemaking, 9 FCC Rcd 6170 (1994).

currently spend a considerable amount of time searching through the disconnected parts of the 9-1-1 rules in Title 47. As part of further review and streamlining efforts, the Commission could extend this proceeding to the broader effort to develop the legal and regulatory framework for NG9-1-1 services.

II. DISCUSSION

A. The Proposed Direct Dialing and Notification Rules Are Appropriate and Necessary for Effective Implementation of Kari's Law

West Safety supports the proposed implementing regulations of Kari's Law and agrees with the Commission's conclusion that these rules are necessary to provide additional clarity and specificity for effective implementation.[4] The proposed rules properly segment and define the MLTS marketplace consistent with Kari's Law. Furthermore, the Commission has correctly identified MLTS managers as the primary party that should be responsible for compliance.

The proposed rules also appropriately balance the benefits and costs of implementation of direct dialing and notification by setting a compliance date of February 16, 2020 consistent with Kari's Law. As West Safety explained previously in response to the Commission's September 2017 ECS Notice of Inquiry, direct access to 9-1-1 without a dialing prefix can typically be implemented by appropriate configurations to MLTS of all types at little or no cost to the enterprise.[5] Notification functionality is available natively in most MLTS equipment or it can be supported via a third-party application such as West Safety's Emergency Routing Service (ERS, also commonly known as a VoIP Positioning Center) and Emergency Gateway Service (EGW).[6]

[4] NPRM ¶ 17.

[5] Comments of West Safety at 10, PS Docket No. 17-239 (filed Nov. 15, 2017) ("West Safety ECS NOI Comments").

[6] *Id.* at 19.

Because most MLTS can already support the requirements of the proposed rules, the cost of implementation is minimal, whereas the benefits of closing this regulatory gap are significant.[7]

Moreover, by adopting a prospective compliance date that applies only to MLTS offered for first sale after February 16, 2020, market participants will be afforded sufficient advanced notice to make informed manufacturing, planning and purchasing decisions, and enterprises will have the proper level of financial and operational flexibility to retain their existing, grandfathered MLTS until end-of-life.[8] In addition, consistent with the legislative history of Kari's Law, the Commission's proposed definition of "improvements to the hardware or software of the system" is appropriately tailored to ensure enterprises will not incur significant costs or core system upgrades to bring their MLTS purchased after the compliance date into compliance with the notification rule.[9]

With regard to the specific elements and definitions of the proposed implementing rules for Kari's Law, West Safety supports the Commission's proposal that the MLTS notification include the same dispatchable location information that the PSAP receives in addition to a valid callback number and an indication that a 9-1-1 call has been made.[10] Requiring this minimal level of content in the notification aligns with the purpose of Kari's Law and ensures enterprises will be fully equipped to assist 9-1-1 MLTS callers and first responders. West Safety also agrees with the Commission's proposal that notification be delivered contemporaneous with the 9-1-1

[7] West Safety ECS NOI Comments at 26-28.

[8] A sunset period of 5-10 years could be imposed to grandfathered MLTS if the Commission has concerns about these legacy TDM MLTS systems. West Safety believes such an expiration period is unnecessary given market trends toward IP-based MLTS.

[9] NPRM ¶ 33.

[10] NPRM ¶ 22.

call, as this concurrent timeline is critical to realizing the full benefits of internal responders working together with first responders to gain timely access and direction to the emergency.

Any potential burden from this content requirement will be offset by the Commission's proposal to not require conveyance of the notification to a specific on-site destination point, nor to require specific staffing or monitoring obligations at the enterprise. Accounting for the proliferation of low-cost systems for remote security and monitoring offered by third-party vendors capable of ensuring these MLTS 9-1-1 notifications will be delivered to points where they will be seen or heard by existing staff, the implementation cost of the proposed rule is minor.

Lastly, West Safety endorses the Commission's proposed interpretation of MLTS as defined in Kari's Law and RAY BAUM'S Act, the proposed definitions of pre-configured and configured, and the proposed definitions of the various roles of MLTS marketplace participants. The definition of MLTS is sufficiently broad to encompass the full range of enterprise communications systems (legacy TDM MLTS, hybrid MLTS and IP MLTS systems and software), as well as any and all endpoints supported by MLTS including mobile and smart devices, softphone clients, over-the-top (OTT) applications and outbound-only calling services.

The proposed definitions of pre-configured and configured are consistent with the intent of Kari's Law to ensure MLTS supports default configuration allowing users to reach 9-1-1 directly without prohibiting additional dialing patterns and all MLTS is fully capable when installed/configured of dialing 9-1-1 directly and providing 9-1-1 notification to the enterprise. In conjunction with the Commission's adoption of a dispatchable location requirement for MLTS, these rules could be expanded to ensure MLTS pre-configuration and configuration for location support.

The proposed rules also properly define the relevant participants in the MLTS marketplace by dividing responsibilities and obligations between persons engaged in the business of (i) manufacturing, importing, selling or leasing an MLTS, (ii) installing an MLTS, (iii) managing an MLTS or (iv) operating an MLTS. Each of these participants plays a key role in the provision and consumption of MLTS services, with MLTS managers serving as the pivotal and appropriate focus for compliance and enforcement due to their unique control and oversight over MLTS implementation.[11] West Safety also agrees with the Commission's proposal to interpret the definitions of MLTS manager and operator to exclude users that do not own, lease or exercise any control over the MLTS.[12] Regulating the activities and purchase decisions of passive enterprise owners is inconsistent with the intent of Kari's Law.

B. The Commission Should Adopt Rules Requiring Dispatchable Location be Conveyed With MLTS 9-1-1 and Every Other Type of Call to 9-1-1 to the Extent Technically Feasible

Ensuring timely delivery of verified dispatchable location for all types of communications services supporting outbound calls to 9-1-1 should be the end state of 9-1-1 regulation. Consumers expect 9-1-1 calls will be routed to the appropriate PSAP and timely help will be dispatched to the caller's precise location. That expectation does not change based on the type of service or device—for MLTS, fixed telephony, interconnected VoIP, mobile, outbound-only VoIP, OTT VoIP, tablets, smart speakers and other smart devices, the caller's expectation is the same. West Safety therefore encourages the Commission to adopt verified dispatchable location rules for all 9-1-1 communications services whenever technically feasible.

[11] NPRM ¶¶ 34-38, 44.

[12] NPRM ¶ 38.

In doing so, however, the Commission should ensure its rules and policies will not preclude conveyance of other forms of location data in addition to dispatchable location that may be helpful to the PSAP such as proximity checked GPS or Wi-Fi Access Points (Wi-Fi AP). Next best location alternatives to dispatchable location should also be permitted in the limited circumstances where dispatchable location is unavailable or not technically feasible such as enhanced Registered Location for certain nomadic VoIP services (as proposed by the Commission) or proximity checked GPS or Wi-Fi AP data.

Furthermore, the Commission should allow and encourage the delivery of supplemental information to PSAPs about the call, caller or caller's location. Such supplemental information could include detailed floor plans, security and alarming media and occupant background information (*e.g.*, medical, emergency contacts, access codes). Delivery of pictures or videos with a level of confidence from monitoring services and verified alarms, for example, could improve first responder and caller safety by accurately identifying criminals and verifying residents. Ultimately the objective should be to provide PSAPs and first responders with any and all requested and reliable tools and data that could improve public safety response in an emergency.

West Safety responds as follows to the specific communications services identified in the dispatchable location section of the NPRM:

1. MLTS

West Safety commented extensively in the ECS NOI proceeding on the necessity, feasibility, legal authority and cost/benefit of federal location requirements for MLTS.[13] From its vantage point as the leading provider of 9-1-1 vendor solutions for MLTS, West Safety

[13] *See* West Safety ECS NOI Comments and Reply Comments (filed Dec. 15, 2017).

believes MLTS needs federal rules requiring dispatchable location be conveyed with all MLTS calls to 9-1-1. The Commission's decision to defer to state action on MLTS E9-1-1 in the E9-1-1 Scope Order has proven unsuccessful and resulted in a patchwork of state laws that are inconsistent, limited in scope and ineffective due to lack of enforcement or broad exceptions to compliance.[14] Complex network designs and distributed workforces have created a considerable challenge for the enterprise's management of E9-1-1, and have exacerbated the "unacceptable gap in the emergency call system" for MLTS E9-1-1 forecasted by the Commission in 2003.[15]

West Safety is confident that adoption of the Commission's proposed rules will finally close the MLTS E9-1-1 gap. As noted above, the proposed rules for dispatchable location appropriately define the MLTS marketplace and the roles and obligations of MLTS participants. Additionally, adopting a prospective compliance date of February 16, 2020 with grandfathering relief alleviates the burden on enterprises from having to replace or upgrade legacy TDM MLTS systems. All modern IP-based MLTS configurations and VoIP/Unified Communications (UC) platforms are capable of supporting dispatchable location provisioning and appropriate routing for 9-1-1 either natively through MLTS equipment or by reliance on 9-1-1 service providers.[16] West Safety and other 9-1-1 service vendors offer low-cost solutions for E9-1-1 compliance that are adaptable to a variety of voice platforms and require minimal ongoing maintenance after initial configuration.[17] Thus, compliance with the proposed MLTS rule is both feasible and cost-effective.

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[14] E9-1-1 Scope Order, 18 FCC Rcd 25340, 25362-63.

[15] *Id.* at 25385 ¶ 113.

[16] West Safety ECS NOI Comments at 10-13.

[17] West Safety ECS NOI Comments at 24-25. These solutions support automatic tracking of IP phones, including soft phones and Wi-Fi enabled mobile devices (using layer 2 or layer 3 tracking), move/add/change events, Wi-Fi roaming within an office, and remote employees using VPNs to make calls from ECS. Many of West Safety's customers have remote workers that are easily supported over home or public broadband connections outside the

Furthermore, the Commission tailored the proposed definition to strike the appropriate balance between flexibility and specificity.[18] West Safety recommended in its ECS NOI Comments that the rule require MLTS be manufactured and configured to support and provide a validated Emergency Response Location (ERL) for each 7,000 square foot workspace within each floor.[19] After reviewing the comments in the ECS NOI and the RAY BAUM'S Act, West Safety now is supportive of the "all platforms" definition proposed by the Commission in the NPRM.[20] Provided the Commission applies proper enforcement and compliance mechanisms to ensure MLTS installers, managers and operators are meeting their obligation to pass "additional information . . . necessary to adequately identify the location of the calling party" and the definitions of "pre-configured" and "configured" are expanded to address "dispatchable location," the proposed rule could both support precise location for MLTS and afford affected enterprises with the necessary flexibility to develop location solutions best suited for their individual needs and budgets.[21] Additionally, the proposed dispatchable location definition has the advantage of being able to be applied across all types of communications services for streamlined and simplified location rules as technology advances.

The proposed definition also includes all of the appropriate granular elements of location for MLTS and other calling services—room, floor, suite, apartment number or similar information.[22] Over time this list of illustrative location elements could be expanded to account

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enterprise, and numerous other providers of ECS 9-1-1 services offer similar applications for mobile soft phone users.

[18] NPRM ¶ 58.

[19] West Safety ECS NOI Comments at 14, 33.

[20] NPRM ¶ 56.

[21] *Id*.

[22] West Safety notes that the text of the NPRM's proposed definition of dispatchable location differs slightly from the definition in the proposed rule, which omits "floor" from the list of granular elements.

for new services and technologies if the catch-all "similar information" category proves too vague.

Validation is the one critical piece missing from the proposed definition of dispatchable location. Location validation should be required for all types of communications services capable of calling 9-1-1, including MLTS, which is able to support both address format validation for individual PSAPs by MSAG or its NG9-1-1 functional equivalent and location validation through proximity checks (GPS, Wi-Fi AP, IP location, Bluetooth Low Energy (BLE) beacons) or user validation (*e.g.*, user prompts). Uncorroborated street address information leads to misrouted calls and delayed response time, which the Commission recognized in adopting a validation requirement for dispatchable location information delivered by CMRS providers.[23] A flexible and technology-neutral validation rule modeled after the CMRS definition could easily be extended over time to all communications services as part of a standardized definition of dispatchable location established in this proceeding.

Finally, consideration should be given to incorporating fallback location measures into the MLTS rule when dispatchable location is not technically feasible or available for a 9-1-1 call. West Safety recognizes that not all MLTS users possess traditional street addresses, and may need to rely on other forms of location information for dispatch.[24] There also may be unique scenarios where certain MLTS configurations and VoIP/UC platforms are unable to support dispatchable location for remote workforces but are able to convey other types of location

[23] *Wireless E911 Location Accuracy Requirement*s, Fourth Report and Order, 30 FCC Rcd 1259, 1274 ¶ 44 fn. 77 (2015) (adopting validation requirement in definition of CMRS dispatchable location as recommended in the November 2014 Roadmap for Improving E911 Location Accuracy by APCO, NENA and the four national wireless carriers).

[24] Comments of RedSky Technologies, Inc. at 17, PS Docket Nos. 18-261 and 17-239 (filed Oct. 9, 2018) (commenting in response to NPRM that not every end point connected to a MLTS has an associated street address such as certain entities in the utility and transportation industries that have facilities on private service roads, along railroad tracks or near power generating facilities).

information that is useful to PSAPs such as validated GPS or Wi-Fi AP. Permitting these types of fallback alternatives to dispatchable location would guarantee some level of verified location support for every 9-1-1 call from MLTS.

2. Fixed Telephony Providers

West Safety, as explained above, believes delivery of dispatchable location should be mandated for all communications services capable of calling 9-1-1, including fixed telephony. We are not aware of any technical limitations to fixed telephony providers conveying dispatchable location with a 9-1-1 call. In fact, as the Commission notes, fixed telephony carriers typically already provide validated street address information with 9-1-1 calls even though Section 64.3001 does not expressly address location delivery.[25] The burden of a dispatchable location rule therefore would be negligible for these carriers in the context of the overall objective to unify dispatchable location across all types of communications services consistent with RAY BAUM'S Act. Furthermore, there may be circumstances where the dispatchable location requirement of "additional information" could aid PSAPs and first responders in locating the calling party.

3. Mobile Carriers

Regarding the Commission's request to refresh the record on how enhanced location information can be generated and delivered with text messages to 9-1-1, West Safety submits this area of location technology is developing rapidly and text will soon be equipped to support delivery of dispatchable location.[26] As mobile handsets have become more sophisticated and now include built-in location technologies, it is possible for handsets to determine their own

[25] NPRM ¶ 67.

[26] NPRM ¶ 71.

location. Google has demonstrated that through the handset operating system (OS), the detection of an SMS to 9-1-1 event can trigger operations similar to a voice call to 9-1-1. The same or similar mechanisms for voice can be used to send the location information for SMS to the PSAPs. SMS to 9-1-1 also has significant advantages to the utilization of handset-initiated location. Unlike voice calls, SMS messages by their very nature are "text or data" and inherently have the ability to send data.

There are now at least two proposed methods that can be utilized to transmit handset-initiated location for text to the 9-1-1 network. First, the same SMS messages used to convey the emergency messages to the 9-1-1 network can also be used to send the emergency location. Google has publicly demonstrated supportive functionality so that when a user texts to 9-1-1, the Android handset sends its Emergency Location Service (ELS) location as a separate SMS message to 9-1-1. This solution would allow the SMS location messages to travel across the same path and arrive at the same end point without any changes to the network. The existing Text Control Center (TCC) would simply need to be configured to receive this extra SMS location message and utilize its content for routing and location delivery to the PSAP. Because SMS to 9-1-1 messages are always sent to the home carrier not the serving carrier, this location delivery method also would simplify deployment as carriers could roll out the modification by carrier without requiring coordination between PSAPs and home and serving carriers.

Second, the carrier transition to Long-Term Evolution (LTE) networks utilizing Session Initiation Protocol (SIP) allows for the inclusion of location information in the SIP message for text under the same design for voice via the data structure PIDF-LO. Like with SMS, the TCC could receive this location element and use it for routing and location delivery to the PSAP.

For both of these methods, initial and updated location could be supported by the automatic transmission of new location information received from the handset. To support these location methods, changes would have to be made on the handset by the OS and/or messaging client to include device-based hybrid handset initiated location information and to the TCC to utilize the new location payload.

4. Interconnected VoIP

The Commission is prudent to consider requiring the provision of dispatchable location for interconnected VoIP calls to 9-1-1.[27] Registered Location has not aged well as an E9-1-1 location standard primarily because of the inherent shortfalls with relying on manual location provisioned by end users.

Generally the Commission is correct that Registered Location is a sufficient proxy for dispatchable location in the context of fixed VoIP, as the information that is already being conveyed with fixed VoIP normally includes street address. However, sometimes this street address information is not format validated before pseudo-Automatic Number Identification (p-ANI) shell records are loaded into regional Automatic Location Information (ALI) databases. This obstacle could easily be eliminated through adoption of a universal dispatchable location definition that requires validation.

Dispatchable location for nomadic VoIP is more complicated and may require a hybrid rule approach until it is technically feasible and cost-effective to support automatic generation of real-time dispatchable location. In the meantime, however, it is no longer sensible to rely exclusively on Registered Location in nomadic environments.

[27] NPRM ¶ 73.

The hybrid approach presented in the proposed rule could serve as an interim solution. If the calling device has location capability such as GPS or Wi-Fi AP, these devices can be located to the X/Y, which can be delivered to the PSAP and/or used to validate user provisioned address. If the device does not have location capability, the nomadic VoIP provider could use an internal or vendor solution to detect when a location may have changed and either pre-populate the location based on network history or prompt the end user to do so manually.[28]

To encourage investment in dispatchable location solutions that do not require manual end user updates, West Safety recommends the rule make clear that the new and enhanced form of Registered Location is not an alternative to dispatchable location for nomadic interconnected VoIP. Rather, this enhanced version of Registered Location should be utilized only as a fallback option when dispatchable location truly is not possible under existing technologies.

5. Other 911-Capable Services

West Safety supports extending the 9-1-1 rules to interconnected outbound-only VoIP services through inclusion of the Commission's proposed definition of 911 VoIP service in the proposed revisions of the E9-1-1 rule for interconnected VoIP.[29] From a caller's perspective, interconnected outbound-only VoIP service is, for the most part, similar to traditional telephone service, and its users reasonably expect it to function the same. The same low-cost internal or vendor solutions for nomadic interconnected VoIP discussed above could support location information for these 9-1-1 VoIP services.

[28] *See* Comments of West Safety at 10, *In the Matter of Location-Based Routing for Wireless 911 Calls*, PS Docket No. 18-64 (filed May 7, 2018) (explaining technological limitations to supporting dispatchable location for nomadic VoIP when the calling device does not have location capability).

[29] 47 CFR § 9.3 (limiting definition of interconnected VoIP to services that permit users to both receive *and* terminate calls to the PSTN).

C. Consolidating the Commission's 9-1-1 Rules Into a Single Rule Part is a Positive Development Toward Simplification and Modernization

Consolidation of the 9-1-1 rules into a single rule part will save covered entities valuable time and resources while also reducing the likelihood of noncompliance by an entity unintentionally overlooking one of the many dispersed parts of the current 9-1-1 rules. Furthermore, establishment of a single rule part better reflects the unified end state of NG9-1-1. West Safety therefore supports the Commission's proposal to consolidate the 9-1-1 rules, and encourages further review and streamlining efforts as part of the broader effort to develop the legal and regulatory framework for NG9-1-1 services.

III. CONCLUSION

West Safety appreciates the opportunity to provide these initial comments and respectfully requests that the Commission adopt its proposed implementing rules for Kari's Law and 9-1-1 dispatchable location requirements for MLTS and all other communications services to the extent technically feasible.

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Respectfully submitted,

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